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MARK RACING THE SCOTT 24HR



training for ultra-endurance mountain bike events

WORDS BY MARK FENNER

So, how do we train for a 12 or 24 hour mountain bike event? In this series of articles I aim to provide the theory and rationales that underpin program design. I also aim to provide samples of specific workouts that can be used in the build up to endurance events and offer advice on the structure and progression that should be used. The final outcome being, that over the course of three articles, most readers should be able to tailor themselves a training program that will enable them to 'compete' in, not just 'survive', an endurance mountain bike event.

the philosophy

One of the biggest misconceptions, and often the biggest stumbling block for novice to expert riders, is the belief that to compete well at longer distance events you have to complete huge volumes of training. With most riders having considerable demands on their time with regards to family, work and life commitments, following a large volume training plan will often lead to burnout, both physically and mentally, and subsequent illness or poor performance. With the right quantity of 'quality' training, it is often possible to achieve much, much more.

Most readers will be aware of the reports and diaries of professional riders and elite endurance mountain bikers riding upwards of 25/30hrs a week, covering up to a 1000km. This first philosophy of training relates directly to the long, slow distance training (LSD). This old-school method follows the quantity/volume approach. Very well known coaches, such as Carmichael and Friel, base their programs on this method. This theory sits well with the history of training and the approaches of most institutes of sports going back to the Eastern block and Russian camps of the 70's. In their diaries from those days, pros write of 5 -8 hours of training a day, or so we are led to believe! It is, however, these large volumes of training which cause immune suppression and the feeling of general fatigue and exhaustion. This method of training is also much harder to fit in to most people's busy daily routines. These types of programs can seem attractive due to the fact that most of the base period of training is at lower, easier intensities.

With the recent development of bicycle mounted power meters, scientists and coaches have been able to study the physiological demands placed upon athletes in race situations. This has led to coaches being able to target more accurately the energy systems that need to be developed to compete at these events.

This then leads us into the second training philosophy or approach, championed by Lydiard, Allen, Coggan and Greg Lemond, who are all advocates for less is more, if it is done right. Using science has shown that the optimum intensity to create the physiological adaptations for the development of an athlete's Functional Threshold Power (FTP) occurs at between 88 and 105% of the athlete's current FTP. These adaptations include increases in mitochondrial density, capillarisation and oxidative enzyme concentrations. These adaptations make a rider ride faster and, if this has been proven through science, then this is the area that we should base our training. The ideas proposed are that if we can raise our FTP then at any given percentage of that threshold, we will be producing more power and therefore, will be going faster. An example of this could be an athlete competing at a 24 hour event. Elite solo riders have been documented riding at an average of around 70% of their FTP for the duration of the 24 hour race. Now if FTP has been increased for instance by 20watts through specific training targeting increasing FTP from 260 to 280watts for instance, then this rider could theoretically produce nearly 15 more watts at 70% FTP and this could equate to 0.5 - 1km/h difference in speed. It is then obvious that this increase in power could give the athlete up to a 24km advantage at the end of the race.

So, if we have established that 10hrs of training per week could give us the same, if not better, results than 20hrs per week, then how do we do train? The fundamental processes of training are the same whatever approach you use. The basic principles of training are that we create continually increasing physiological load overtime, interspersed with recovery, to allow for optimal physiological adaptation. This physiological load should be specific to the demands of the event or the activity performed, e.g. to get good at riding a bike - you ride your bike. This means the basic principles are:



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- specificity of exercise, progressive overload and recovery. Create a plan with these simple principles in place, with the correct dosage, and the athlete should get fitter, stronger and faster.

Unfortunately, by its simple definition, progressive overload is open to misinterpretation and what may be progressive overload for one person may constitute overreaching for another, and when carried out over a number of months may lead to overtraining.

As a coach, the biggest problem I face is educating riders on the benefits of the long haul and the simple analogy that "Rome was not built in a day". Magazine articles and pro riders' diaries paint a picture of long and hard training days and massive power outputs. The fact is professional riders have been riding for many years and when they started they were not cranking out massive Km's. Even those who have made it into the pro ranks are held back and looked after by the best managers and coaches, so as not to push the rider too hard too soon. The Tour de France is often the last of the major races for an aspiring pro to race; again this is just an example of progressive overload.

The next thing to consider, then, is the different workouts to structure into a program to elicit a gradual, progressive overload on the body's systems. It can be done with lots of volume (if you have nothing else to do!) or with less volume and higher intensity. It can be built with bigger, harder

weekend rides and maintenance through the week, or more consistent workouts

throughout the week. One method digs bigger holes (greater physiological stress) and needs more recovery built in and one method is more consistent and builds without the need for as much recovery in the program.


The big question is how do we put it all together and what method is best for what riders?? In the next issue of Enduro we will investigate the types of workouts used and look into the quantity and variations of these different workouts.

Glossary of Terms

Functional Threshold Power (FTP) this relates to around 85 – 92% of max heart rate

Long Slow Distance (LSD) typically around 60 – 75% of max heart rate

Base Period typically the first 2 – 3 months of aerobic development

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